LINKING TRADITIONAL ECOLOGICAL KNOWLEDGE AND SOLEC: SUMMARY AND FINAL RECOMMENDATIONS

prepared for

Environment Canada - Ontario Region
and
Chiefs of Ontario

by
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deyoihwadogę̨hdǫ́h **ganǫhǫ́nyǫhk**
short version *thanksgiving address*

nę:dah nigę̨kyǫhgo'dę́ ę̨swathaǫhsi:yóhs gaihwaę̨t:gǫ́h awá:dǫ'
now this assembled crowd you will all listen to my responsibility it has become

né:' hę̨dwaihwakyę́:to shǫgwayadihs'ǫ́h sǫgwa:wí: ganǫhǫ́nyǫhk
it we will pull from our creator he has given us thanksgiving

ne:'né:' aǫ:'we:sáht' sgę̨:nǫ́' dwę̨nǫhdǫ́nyǫh
it is rejoicable of well being we are in mind of

ne:'di'né' ę̨dwe:hék i:'hyá:' sgá:t ę̨dwayę́:' ogwa'nigǫ́ha
and so we will in thought we first as one we will put our minds

sgá:t dę̨dwadatnǫhǫnyǫ́:'
as one we will greet each other

netogyę́: niyohtǫ́k ǫgwa'nigǫ́ha'
be it so remain our minds

da:né:' ę̨dwa:tro:wí' shę́h ohwę̨jáde`
now this we will talk about existing earth

dwano:há' dedwanǫhǫhkwá' né: gwatóh shę́h niyéha:'
our mother we refer to it as and also what she holds

ne:'di'né' ę̨dwe:hé:k gwe:gǫ́h dę̨dwanǫhǫnyǫ́:' *
and so we will in thought everything we will thank

netogyę́: niyohtǫ́k ǫgwa'nigǫ́ha'
be it so remain our minds

*shę́h niyéha:ʾ
what she holds

odwę̱nohgrǫ́nya̱hnǫʾ wahyaniyǫ́:taʾ otǫdǫnyáhnǫʾ odehadǫ́:ni gadí:nyǫ:ʾ
growing varieties of weeds hanging berries growing bushes growing trees game animals

ganyadaí:nyǫ gihędényǫʾ ohnawao:dǫ́nyǫʾ neʾhniʾnéʾ gyǫnhéhgǫh
lakes streams wells and also our sustenance

né:ʾ gwatóh shę́h deyowa:wę́nye:
and it also the circulating winds

da:né: ędwa:tró:wiʾ hodęihǫdǫ́nyǫʾ
now it we will talk about his assigned duty performers

tati̱hsnyé:gyeʾs shęh nahawayę̱nánhe
they look after how much he created

neʾdiʾnéʾ ędwe:hék sgá:t dęyetinǫhǫ́nyǫ:ʾ
and so we will mentally as one we will thank them

netogyǫ́: niyohtǫ́k ǫgwaʾnigǫ́haʾ
be it so remain our minds

da:né: ędwa:tro:wí sedwagowa:nę́h sganyadaí:yoʾ
now it we will talk about our leader handsome lake

oi:howa:nę́h atatrihwá:dsʾa:ʾ
a great worthy commendation he had earned for himself

né:ʾ desahaihwaę:twáht shę́h naǫsaǫgwayę̱hę́k obę:dǫ́: haʾwęhni̱hfradenyǫ́:gyeʾ
it is he who has seeded the news of how we will conduct ourselves in future days ahead

ne'di'né' ędwe:hé:k dęsedwanǫhǫnyǫ́:' sedwagowanę́h sganyadaíyo'
and so we will mentally we will thank him our leader handsome lake

netogyę́: niyohtǫ́k ǫgwa'nigǫ́ha'
be it so remain our minds

da:né: ędwa:tro:wí' geí: niyǫgweda:gé: hadiǫhya'kió:nǫ'
now it we will talk about the four people of male inhabitants

né: deyǫkhiyę'nyadǫ́' sgęnǫ́' dwęnǫhdǫ́nyǫh
it is with their hands guard us well being we are in their minds

ne'di'né' ędwehé:k dęyetinǫhǫnyǫ́:' hadiohya'kio:nǫ' deyǫkiyę'nyádǫ'
and so we mentally we will thank them heavenly male inhabitants our guardians

netogyę́: niyohtǫ́k ǫgwa'nigǫ́ha'
be it so remain our minds

da:né:' ędwa:tro:wí' haǫha'géh gaǫhyadé' hanagré' shǫgwayadíhs'ǫh
now it we will talk about him who in heaven he lives creator

ne:'tsǫ́: to'sęhdǫ́h né' sgęnǫ́' aidwęnǫhdǫ́nyǫ:'
only things dropped down well being in our minds

ne'di'né' ędwe:hé:k dęsedwanǫhǫnyǫ́:' gaǫhyadé' hana:gré' shǫgwayadíhs'ǫh
and so we will mentally thank him who in heaven he lives our creator

netogyę́: niyohtǫ́k ǫgwa'nigǫ́ha'
be it so remain our minds

da:netóh naga:tgwe:nǐ i'géh agayagęhdáhk ganǫhǫ́nyǫhk
this is the best I could do up to me it came out thanksgiving

da:nétoh
that is all

Address and Cayuga-English translation provided by
Norman L. Jacobs
Haudenosaunee Environmental Delegate
Six Nations of the Grand River

INTRODUCTION

SOLEC 2000, held in October 2000 in Hamilton, Ontario, was the first of the SOLEC gatherings to formally include Aboriginal participation in its agenda. This was achieved through the involvement of a Native Elder and six "Native Environmental Professionals" throughout the conference, as well as specific workshop presentations by First Nations representatives and a First Nations-only discussion session. The goal of Aboriginal involvement in SOLEC was, and continues to be, to develop a process which facilitates the utilization of Aboriginal Traditional Ecological Knowledge (TEK) in SOLEC initiatives. As will be discussed further in this report, this goal necessitates the establishment and maintenance of positive, long-term and mutually beneficial working relationships between Aboriginal peoples and the SOLEC organizers. While this report focuses on Ontario First Nations and Environment Canada - Ontario Region (EC-OR), it is intended that the relationship-building strategies discussed here will be shared with and hopefully used by representatives from other Great Lakes jurisdictions on both sides of the Canada/US border.

In support of this undertaking, a series of three reports has been produced. This document is thus based upon the findings of two earlier reports. The first, *Linking Traditional Ecological Knowledge and SOLEC: Preliminary Report*, was produced in the fall of 2000, in the months leading up to SOLEC 2000. That report was intended primarily as background discussion material for the Aboriginal representatives who were to take part in SOLEC 2000. It presented a short discussion of the nature of TEK, a brief history of the SOLEC process, and descriptions of various attempts in Ontario to involve TEK in environmental initiatives. Based on this information, a list of preliminary recommendations was offered.

The second report, *Linking Traditional Ecological Knowledge and SOLEC Report 2: The Experience of First Nations Participants at SOLEC 2000*, built upon the first report through the presentation of views of Aboriginal representatives from the Ontario Great Lakes region who participated in SOLEC 2000. While the participation of those representatives expressly did NOT constitute Aboriginal consultation in SOLEC, it provided an opportunity for the discussion of a somewhat greater range of Aboriginal viewpoints. Those viewpoints formed the basis of the recommendations found at the end Report 2.

This third report, *Linking Traditional Ecological Knowledge and Solec: Summary and Final Recommendations*, summarizes major points and highlights key recommendations from the two previous reports. While those reports remain in draft form only, this final document is intended to be published and distributed to a variety of interested readers, primarily over the Internet. It is intended also that EC-OR will act upon the recommendations made at the end of this report so as promote the establishment of long-term mutually beneficial relationships among First Nations/Tribes and government agencies on both sides of the Canada/US border.

Prior to making these recommendations, this report presents a series of discussions which both place the recommendations in context and provide a rationale for their inclusion. Initially, a brief history of the SOLEC process is offered. This is followed by discussions of the nature of TEK and the barriers which currently exist in applying it to environmental management initiatives.

Next, some past and ongoing attempts at applying TEK in such initiatives are highlighted, with particular emphasis on lessons learned. This is followed by a summary of observations made of the SOLEC process by the Native environmental professionals who attended SOLEC 2000. These observations focus primarily on areas for improvement vis-a-vis Aboriginal involvement in SOLEC. The idea of "co-existence" as a solution to current shortcomings is then presented. Finally, a list of recommendations intended to bring about a partnership based on principles of co-existence between EC-OR and Ontario Great Lakes First Nations is offered.

Note that these discussions as well as the recommendations are drawn primarily from the previous two reports. To obtain copies, readers may send an e-mail to deb.mcgregor@ec.gc.ca .

A BRIEF HISTORY OF SOLEC

The discussion below focuses on what SOLEC currently achieves and aims to achieve, with a view to broadening that scope to include First Nations and TEK. Unless otherwise stated, information on the history and achievements of SOLEC is taken from Environment Canada - Ontario Region Web pages (Environment Canada 2000a, 2000b, and 2000c. For related information go to Environment Canada 2000d and 2000e. Links to these pages are contained in the references).

The SOLEC process is a direct result of the Canada/US Great Lakes Water Quality Agreement (GLWQA), first signed in 1972 and updated in 1978. This agreement committed both countries to controlling pollution in the lakes and reducing the amount of new pollution entering the system via industrial and community wastewater. Specifically, the agreement's aim was, "to restore and maintain the chemical, physical, and biological integrity of the waters of the Great Lakes Basin Ecosystem" (Environment Canada 2000a, 1). As part of the implementation of these goals, the "1987 Protocol" was signed in order to establish Remedial Action Plans (RAPs) and Lakewide Management Plans (LaMPs). RAPs are developed to address identified Areas of Concern (originally 43 AOCs were identified; 42 remain on the list) on an ecosystem basis and involving the local community. RAPs deal with "nearshore" waters and include lands along the shore while LaMPs focus on the reduction of critical pollutants in the open waters of the Great Lakes. The International Joint Commission (IJC), originally set up to resolve disputes over water use between Canada and the US as part of the 1909 Boundary Waters Treaty, is now responsible for overseeing and evaluating the progress of both countries towards meeting the goals of the GLWQA.

The SOLEC process was thus established as a way of monitoring such progress from a biochemical and biophysical standpoint. Hosted jointly by the United States Environmental Protection Agency (USEPA) and Environment Canada (EC), each conference brings together representatives from government as well as the private sector and non-profit organizations whose

work and decisions affect the Great Lakes. These representatives then exchange "information on the ecological condition of the Great Lakes and surrounding lands" (Environment Canada 2000b,

1).

A "State of the Great Lakes" report is produced in the year following each conference and provides an ecological update for the entire Great Lakes Basin. The status of ecological conditions, including human health, is the key focus of SOLEC and the State of the Great Lakes reports; other conferences and reporting methods are used to monitor and evaluate the Great Lakes programs aimed at improving these conditions.

SOLEC AND TEK: A SOLEC 2000 INITIATIVE

Missing from the earlier SOLECs was the input of those who have the closest ties to and are most directly affected by the Great Lakes Basin and the ecological conditions within it. These people are the members of the 63 First Nations situated within the Great Lakes Basin, few of whom had had any prior dealings or involvement with the SOLEC process. Environment Canada and the other SOLEC 2000 organizers recognized that not only was this an injustice to First Nations, but that non-Native scientists and decision-makers involved in SOLEC were missing out on the potentially invaluable contribution of those who collectively held thousands of years of knowledge and understanding of the Great Lakes ecosystem. This knowledge, referred to here as Traditional Ecological Knowledge, or TEK, has allowed Aboriginal peoples to live, prosper from, and contribute to the Great Lakes ecosystem for countless generations, and could provide valuable insight as to how current society might reestablish more harmonious ways of relating to the lands and waters of the area.

EC-OR's approach to establishing a partnership between TEK and western science in the work of SOLEC was originally one of integration or incorporation of TEK into the existing process. As the discussion below indicates, however, the disparate natures of TEK and western science make this infeasible. Instead, an alternate model for applying TEK to Great Lakes issues is proposed.

BACKGROUND TO TEK

The Semantics of TEK

The field of Traditional Ecological Knowledge (TEK) and its potential use in resource and environmental management has emerged relatively recently in Canada. In spite of rapid development and burgeoning areas of research, the state of TEK research and application remains largely unsatisfactory from an Aboriginal perspective (AFN 1995, McGregor 2000, Roberts 1996, Stevenson 1999). This is due primarily to the fact that TEK, from its definition to its utilization, has been for the most part controlled by interests external to the Aboriginal communities from which it originates (AFN and ICC 1991). TEK has therefore not yet realized its potential in Canadian environmental management regimes, although there are a few noteworthy exceptions (see Lickers 1997a).

One major criticism of the TEK field as it stands is the use of the term "TEK" itself (Berkes 1999, WIPO 2000). The term originates from western academia, rather than from Aboriginal communities themselves. Many Aboriginal people object to the use of the term TEK to describe their knowledge systems. This is in part because the term TEK as it is used tends to connote a

false homogeneity of knowledge across the diverse nations and cultures of Aboriginal people. As well, each of the words "traditional," "ecological," and "knowledge" limits this form of understanding in many significant ways. For example, "traditional" implies that the knowledge is static and confined to information gained in the past. In reality, this form of knowledge is continually evolving and expanding to incorporate new information as part of adapting and responding to current challenges. "Ecological" (sometimes "environmental" is used) limits TEK to a field of study defined by western science. TEK, from a Native viewpoint, is a holistic form of understanding, encompassing all areas of human existence. As will be discussed further below, specific components such as "ecology" cannot appropriately be separated out. Even the use of "knowledge" as a descriptor for this form of understanding is problematic, as Native people tend to describe TEK as more of a "way of life" than something which can be concisely described or written down. This also will be discussed again below.

The search for alternate terms for TEK is difficult, however, given the holistic nature of this form of understanding. Any term which is given to it tends to limit it in some way or another. Nevertheless, various alternatives have been proposed. Among these are "Traditional Knowledge", "Ethno-Science" and "Indigenous Knowledge" (Deloria 1992, Grenier 1998, Wolfe et al 1992). For the purposes of the SOLEC 2000 gathering itself, the term "Naturalized Knowledge Systems" (NKS) was used, as described by Henry Lickers (1997b).

For the moment, TEK continues to be the most widely used and recognized term in discussions on the subject. For that reason, it will also be the term used in this report, although its limitations have been noted. Perhaps a more all-encompassing term will come to replace TEK in the future.

What is TEK?

As reflected in the debate over the title itself, there is considerable controversy in the field of TEK as to exactly what is referred to when one uses the term or its alternatives. Not surprisingly, Aboriginal and non-Aboriginal people hold contrasting views on what the concept actually entails. Academics and western-trained researchers generally view TEK as a "body of knowledge," with a strong bias towards labeling it as a product or commodity (see e.g. Berkes 1993 and 1999, Johnson 1992, Nakashima 1993). The following quotes indicate this western academic view of TEK as a *noun*, something whose boundaries can be readily delineated and which can be packaged for general consumption. According to Berkes (1999, 8) TEK is:

> ...a cumulative body of knowledge, practice and belief, evolving by adaptive processes and handed down through generations by cultural transmission, about the relationship of living things (including humans) with one another and with their environment.

According to Nakashima (1993, 99), TEK is simply, "the knowledge of Native people about their natural environment."

From an Aboriginal viewpoint, TEK is conceptualized as both more than and different from western definitions. Native understandings of TEK tend to focus on *relationships* between

knowledge, people, and all of Creation (the "natural" world as well as the spiritual). TEK is viewed as the *process* (a *verb*) of participating fully and responsibly in such relationships, rather than specifically on the knowledge gained from such experiences. For Aboriginal people, TEK is not just about understanding relationships, it *is* the relationship with Creation. TEK is something one *does*.

Equally fundamental from an Aboriginal perspective is that TEK is *inseparable from the people who hold it* (AFN 1995, Roberts 1996). As stated by Roberts (1996, 115), "Capturing a single aspect of traditional knowledge is difficult. Traditional knowledge is holistic and cannot be separated out from the people. It cannot be compartmentalized like western scientific knowledge."

This means that, at its most fundamental level, one cannot ever really "acquire" or "learn" TEK without having undergone the experiences originally involved in doing so. This being the case, the only way for TEK to be utilized in environmental management is to involve the people, the TEK holders. This is a process which has not yet received sufficient attention. The field to date has focused more on gathering and documenting, using social science methods, those aspects of the knowledge base that are considered of value to external non-Native interests. These "TEK" fragments, where they are used at all, are frequently applied with minimal if any Aboriginal involvement. From an Aboriginal view, such misappropriation of TEK is disrespectful and potentially dangerous (Lickers in Lukey 1995). Once separated from its original holders, TEK loses much of its original value and meaning. Moreover, there are no guarantees that the controls that once came with the knowledge to keep it safe as well as useful will still be applied.

Concepts of TEK are gradually changing as more Aboriginal people gain a voice in the environmental arena. For example, it can be seen internationally at least that TEK, in addition to referring to knowledge, has also come to include (in conceptual terms if not in practice) the innovation, creation, and transmission of TEK (see Grenier 1998, RAFI undated, WIPO 2000).

Barriers to TEK Use: Hurdles to be Overcome by SOLEC

The divergence of western from Aboriginal views on TEK has had a huge impact on how TEK is "gathered", "documented" and then "applied" in resource and environmental management. "Accepted" tools for working with TEK are derived from the western scientific tradition, especially in terms of its acquisition. This has lead to a host of other problems, including the issue of intellectual property rights (see WIPO 2000). Many barriers thus exist to the effective use of TEK (see Berkes 1999, Freeman 1993, Johnson 1992, Stevenson 1999, and Wolfe et al 1992 for discussions). Three main problems of importance to SOLEC are noted briefly below:

1. Aboriginal peoples are not accorded sufficient *meaningful participation* in studies and other work which should and in some cases does attempt to use TEK. As TEK is not separable from the people, the meaningful involvement of the people is necessary in order to utilize TEK in environmental work.

2. Aboriginal people and their knowledge are viewed as *objects* suitable for *study* rather than as *people* for *working with*. It is time to begin building positive long term

relationships with Aboriginal people rather than simply studying them and their knowledge at the mercy of project-by-project funding.

3. Aboriginal people have little *control* over how the knowledge they share will be used. Such knowledge can be (and has been) used against its original holders at a later date or otherwise misused. Again, meaningful involvement of Aboriginal people is required for TEK to be implemented effectively.

In general terms, it is important to realize that Environment Canada is a western science-based department whose work is directed by western scientific paradigms. Adherence solely to this framework is a significant barrier to the use of TEK in Environment Canada's work. SOLEC as well is science-based, with a bias towards bio-physical and bio-chemical information. In more recent years, however, SOLEC has broadened its focus to include wider views of the Great Lakes ecosystem. This understanding is reflected in its development of "societal indicators" of ecosystem health. This broadening of focus represents a significant opportunity for Aboriginal people in expanding the concept of ecosystem health. Aboriginal people have a holistic understanding of the environment and ecosystems. One of the main strengths of their knowledge systems lies in a balanced approach that automatically includes societal aspects as part of the ecology of relating to Creation. This balanced approach, taken for granted for millennia by Aboriginal people, is just beginning to be recognized and explored by the western scientific community.

The barriers confronted by TEK on the interface with western derived environmental management will pose challenges for SOLEC in its attempts to involve Aboriginal people. However, there are also many opportunities for the meaningful participation of Aboriginal people and their knowledge, and SOLEC has made use of one of these through its inclusion of an Aboriginal agenda in the year 2000 conference.

PAST ATTEMPTS AT TEK USE IN ONTARIO ENVIRONMENTAL MANAGEMENT PROJECTS

In the first document of this series, *Linking Traditional Ecological Knowledge and SOLEC: Preliminary Report*, six brief case studies were presented which examined Aboriginal involvement and TEK application in projects around Ontario. While the bulk of that information will not be repeated here, key lessons from each of the six cases are listed in Table 1 below.

Table 1: Past and ongoing attempts at TEK incorporation in Ontario environmental management projects.

Project or Organization Title (reference document)	**Key Goal**	**Overall Success/Level of TEK Use**	**Positive Steps Taken Towards TEK Use**	**Key Lessons Learned or Areas for Improvement**
Moose River Basin Environmental Information Partnership **(Duckworth et al 1999)**	develop comprehensive information management system for environmental decision making	unclear, unsatisfactory on the part of both First Nations and non-Native project organizers	facilitated First Nations control over TEK portion of the project	-involve Aboriginal people earlier (i.e. right from the beginning of project development) -allow TEK a greater scope of influence (i.e. on a par with western science)
Rainy River First Nations' Watershed Program **(Mercer 2000, pers. comm.)**	rehabilitate areas of concern in the Rainy River Watershed while promoting public involvement and monitoring past and ongoing impacts to the watershed	viewed as highly successful by both Native and non-Native interests	-First Nation had control over the project from the beginning -TEK was not compartmentalized into studies etc., instead, TEK holders were involved on a day-to-day basis from the very beginning so that TEK was utilized by default in project development and implementation	-TEK is not just information to be gathered; you have to *do* it as well -TEK cannot function as just an "add-on"; TEK holders must be involved right from the beginning -Elders should not be treated merely as repositories of knowledge, but rather their traditional roles in the community should be respected and integrated into the project structure -treat all shared knowledge with respect
Nin.Da.Waab.Jig (Walpole Island Heritage Centre) **(Jacobs undated; WIHC and Chreod Ltd. 1997)**	manage a variety of community-based environmental projects for the primary benefit of Bkejwanong Territory and the surrounding ecosystem	overall quite good, but varies depending on degree of involvement of the local community	-some projects involve working closely with specific sectors of the community, e.g. youth -direct and immediate involvement of community members increases success of project	-lack of core funding makes long-term planning virtually impossible -lack of centralized plan or framework contributes to disjointed, reactive approach to environmental management, rather than desired consistent, holistic approach -most successful projects closely involved community and addressed tangible community issues e.g. employment, health

Project or Organization Title (reference document)	Key Goal	Overall Success/Level of TEK Use	Positive Steps Taken Towards TEK Use	Key Lessons Learned or Areas for Improvement
Effects on Aboriginals from the Great Lakes Environment (EAGLE) Project **(Allen et al 1999)**	conduct broad inventory of Great Lakes First Nation environmental concerns through dialogue with Great Lakes First Nation communities	good - TEK not compartmentalized, but TEK holder input utilized at every stage of project development and implementation	-TEK an integral part of every stage of the project -committees and representatives established to ensure sustained community input -long term funding provided so that ongoing mutually beneficial relationships could be maintained	-successful projects, involving the establishment and maintenance of long term partnerships, must have stable funding for a period of years -in addition to TEK, western science is useful to Aboriginal people in addressing environmental problems -Aboriginal direction required from the beginning -TEK challenges western systems; all participants must accept this -gaining community trust takes time and sustained effort
Anishinabek/Ontario Fisheries Resource Centre **(www.aofrc.org)**	serve as an independent source of fisheries conservation and management information	TEK is employed to some degree in all initiatives	-50% of the Board of Directors is Native -First Nations "Community Liaison Specialist" on staff -use of both formal and informal processes in accessing local TEK for a given project	-takes time to build relationships with TEK holders before their knowledge can appropriately be shared
Mohawk Council of Akwesasne Department of Environment **(Lickers 1997a; Parks Canada 2000a, b)**	apply Natural Knowledge System philosophies and understandings to a variety of Native and non-Native run environmental projects	NKS applied in varying degrees to all undertakings	-involve Aboriginal people from the beginning of projects wherever possible -forming mutually beneficial partnerships with communities -projects begin at the world view level in discussion with Aboriginal people	-should work directly with Aboriginal people and communities to incorporate Aboriginal world view into project design as well as later operational stages -adequate funding is required

- the likelihood of project success in TEK utilization increases with early, ongoing and consistent involvement of Aboriginal communities, especially TEK holders, in all areas of project design, development, and implementation

- such Aboriginal involvement is best achieved through the early establishment of long-term mutually beneficial relationships between the project organizers and the interested First Nations

- stable long-term relationships are in turn dependent upon stable core funding over a period of years

- TEK and western science should be treated as having equal value, and all involved must accept that TEK challenges western science in many respects and projects which respect TEK may need to be modified accordingly.

TEK AND SOLEC: WHY THE STATUS QUO WON'T WORK

Having discussed common barriers to TEK use, we can now make a more informed evaluation of the SOLEC process with respect to Aboriginal people and their issues. This is precisely what was done by the following Native environmental professionals who read Report 1 in this series and then attended SOLEC 2000:

- Norman L. Jacobs, Haudenosaunee Environmental Delegate, Six Nations of the Grand River (Elder)
- Alan Corbiere, EAGLE Project, M'Chigeeng (West Bay)
- Clynt King, Coordinator, Six Nations Environmental Management Committee
- Dan Longboat, Department of Native Studies, Trent University
- James Ransom, Director, Haudenosaunee Environmental Task Force
- Michael C. Williams, Environmental Coordinator, Nin-Da-Waab-Jig, Bkejwanong Territory
- Paul Williams, Six Nations of the Grand River.

Their observations of the current process are contained in the second report, *Linking Traditional Ecological Knowledge and SOLEC Report 2: The Experience of First Nations Participants at SOLEC 2000*. Once again, the detailed information contained in that report will not be repeated here. Instead, a summary of key points raised by the Native environmental professionals along with a brief explanation for each one is presented in Table 2.

involve TEK in SOLEC.

Key Issue Raised	Brief Explanation
Lack of Aboriginal Representation	Aboriginal representation at SOLEC was seen to be lacking in the following ways: • given that there are 63 First Nations in the Great Lakes Basin, the handful of Native people • who attended SOLEC 2000 is not representative of Aboriginal concerns • those Native people who were present were not necessarily TEK holders • the range of Aboriginal interests represented was minimal in comparison with the range of non-Native interests represented
Exclusion of First Nations Interests	Response to the albeit limited Native presence at SOLEC 2000 was felt by participants to be frequently less than welcoming. During workshops presented by non-Native researchers, environmental agency staff seemed unaware of the potential value of Aboriginal contributions to the process. Non-Native researchers appeared too ready to dismiss Native concerns raised, and seemed to have little experience working with Aboriginal people. Non-Native presenters seemed to assume sole ownership of specific aspects of the SOLEC process such as indicator selection, and sometimes became defensive when challenging questions were raised by Native participants. The Native participants agreed that little can be accomplished until a greater respect is afforded TEK and Aboriginal input.
Lack of Trust	A sufficient level of trust does not yet exist between EC and First Nations which would make Elders and other TEK holders comfortable sharing their knowledge. This problem is made worse by continuing power imbalances between Canadian and First Nations governments.
Indicator Selection	• While participants stated that the indicator selection process had been well done insofar as it went, they identified the following key problems: • exclusion of Aboriginal input into the existing indicator set (see discussion above) or possibly into a separate parallel set designed by First Nations people • lack of consideration of atmospheric sources of Great Lakes contamination • focus on end-point monitoring instead of on source monitoring and control, which raises such issues as end-point safety standards (e.g. levels of contamination in fish considered safe for human consumption) which are based on non-Native populations with much lower rates of fish consumption than found in Aboriginal populations) • focus on monitoring delays the need to exercise political will to act on pollution sources
SOLEC: A Process Already Underway	As with the indicator selection process, the Native participants observed little room for Aboriginal ownership of any significant aspect of SOLEC. TEK is being approached as an "add-on", to be "incorporated" or "integrated" into the existing western scientific framework. For reasons discussed earlier, this will not lead to successful TEK application in SOLEC.
Biodiversity Investment Areas	The philosophical dilemma was raised concerning the decision to effectively classify one area as more important than another, when the health of any area depends upon the health of all the others. Still, many First Nations participants expressed interest in contributing to BIA projects, especially since many of these more "pristine" areas are located on or near reserves.
SOLEC: Potential Benefits to First Nations?	All Native participants shared the view that the SOLEC process has the *potential* to benefit First Nations, depending on how it is undertaken. First Nations could benefit from increased capacity to carry out western scientific studies, given that there was an equal respect for Aboriginal knowledge by non-Native researchers.

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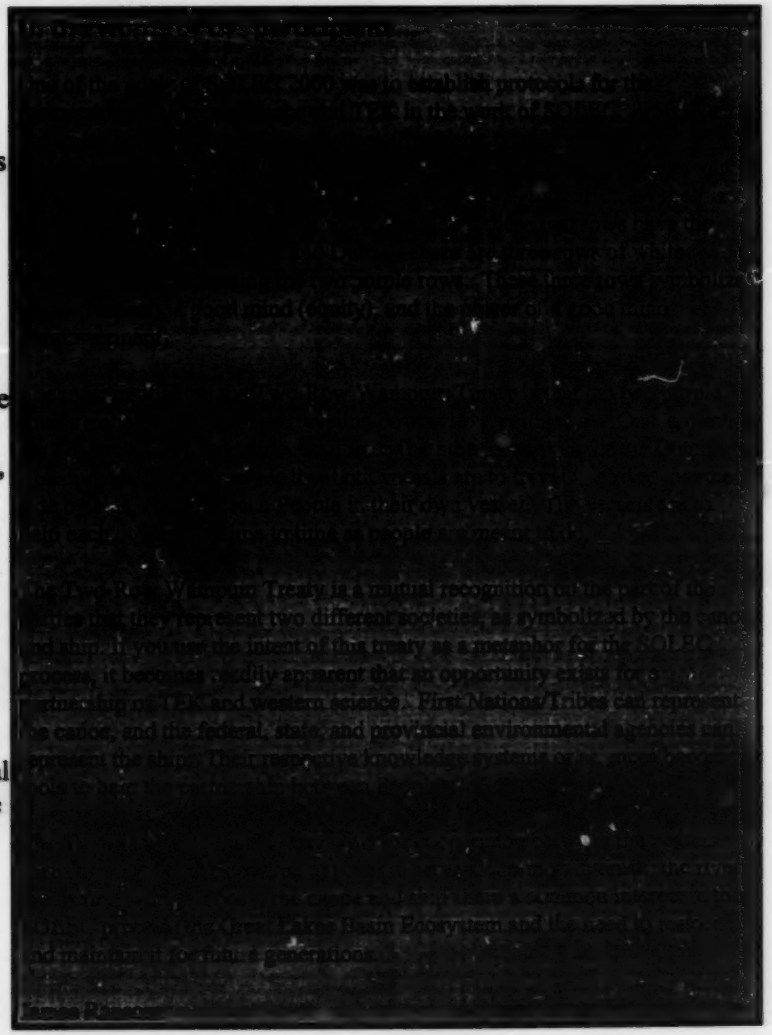
CO-EXISTENCE: A NEW FIRST NATIONS/ENVIRONMENT CANADA RELATIONSHIP



This topic represents the culmination of the central theme of this series of reports: developing recommendations as to how Environment Canada - Ontario Region can work together with Ontario Great Lakes First Nations for the long-term sustainability of the Great Lakes basin. All of the Aboriginal representatives agree that First Nations support the achievement of this goal. They, after all, rely upon a healthy Great Lakes ecosystem as a direct source of food and other resources. The problem is, as was repeated earlier in the report, that the current process has been created without Aboriginal input and therefore leaves little room for Aboriginal viewpoints which challenge the current system. What is proposed, therefore, is that a "co-existence" model replace current efforts to "incorporate" or "integrate" Aboriginal knowledge into a non-Native initiative.

Far from being a new idea, co-

existence is a concept that has its roots in the way that numerous First Nations had originally

undertakings exist separately, yet side-by-side and in partnership with each other. A primary example of this concept is the "co-existence" model, discussed further below.

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In the words of the participants...

One of the goals of SOLEC 2000 was to establish protocols for the partnership of western science and TEK in the work of SOLEC. A 500-year old treaty between the Haudenosaunee (Six Nations or Iroquois Confederacy) and the Dutch provides a framework for how this partnership can move forward. The Kuswantha, or Two-Row Wampum Treaty, belt is made of two rows of purple wampum beads, and these two rows have the spirit of the Haudenosaunee and Dutch. There are three rows of white wampum beads separating the two purple rows. These three rows symbolize peace (respect), a good mind (equity), and the power of a good mind (empowerment).

The meaning behind the Two-Row Wampum Treaty is that the two purple rows symbolize two vessels traveling down the river together. One, a birch bark canoe, is for the Haudenosaunee. The other, a ship, is for the Dutch. The purpose of this treaty is that both vessels are to travel this river together, side by side, but with each People in their own vessel. The vessels are to help each other from time to time as people are meant to do.

The Two-Row Wampum Treaty is a mutual recognition on the part of the parties that they represent two different societies, as symbolized by the canoe and ship. If you use the intent of this treaty as a metaphor for the SOLEC process, it becomes readily apparent that an opportunity exists for a partnership of TEK and western science. First Nations/Tribes can represent the canoe, and the federal, state, and provincial environmental agencies can represent the ship. Their respective knowledge systems or sciences become tools to help the partnership between Peoples.

The Two-Row Wampum Treaty calls for cooperation between the vessels (helping each other from time to time) to serve a common interest: the river, the natural world. Today, the canoe and ship share a common interest in the SOLEC process, the Great Lakes Basin Ecosystem and the need to restore and maintain it for future generations.

James Ransom

Far from being a new idea, co-

existence is a concept that has its roots in the way that numerous First Nations had originally

of common concern. This is a long term, mutually beneficial relationship, where each side respects the other's world view and their right to live accordingly. Rather than suffering because one side does not follow the ways of the other, each side is enriched by the contrasting perspective that the other brings to any discussion. First Nations are calling for this type of working relationship with Canadian government agencies in a variety of settings (e.g. treaties, self-government negotiations, consultation programs). Though an old idea, it offers a model for new and much more positive First Nations/Canadian government relationships.

In the words of the participants...

...as much as we see ourselves as separate peoples, we are also joined together. Those beads that separate us also hold us together. We're held together by peace, by friendship and respect for one another. That binds us together.

Dan Longboat

The Two-Row Wampum belt is supplemented by a later belt, known as the Friendship Treaty belt. The two belts go together, describing different aspects of the relationship. The Friendship Treaty belt depicts two figures holding hands, with the idea being that Native and non-Native people are linked together, and that it is their responsibility to each other to never let go of each other, to always assist one another as they travel through life together. Each people is to retain its own identity while being strengthened through the support of the other.

In the words of the participants...

...their responsibility is that they never let go of one another, that they always uphold peace, they always uphold friendship and respect for one another. They help one another, almost like family...

...it's not an adversarial thing, it's not just a peace thing, it's more than that. It's the whole idea of well-being together and that they give mutual support and assistance to one another.

Dan Longboat

TEK AND SOLEC: FINAL RECOMMENDATIONS FOR ENVIRONMENT CANADA - FIRST NATIONS CO-EXISTENCE

The primary purpose of this series of three documents has been to provide the foundations of an EC-OR strategy for improving relations with Aboriginal peoples in the Great Lakes Basin with the goal of facilitating the move towards greater sustainability in the Great Lakes ecosystem. The recommendations listed below, if followed in the spirit with which they are written, will comprise that foundation.

Please Note: The recommendations listed below pertain to relationship-building. Detailed Aboriginal recommendations concerning specific action steps for improving Great Lakes sustainability and the SOLEC process should be developed and implemented once long-

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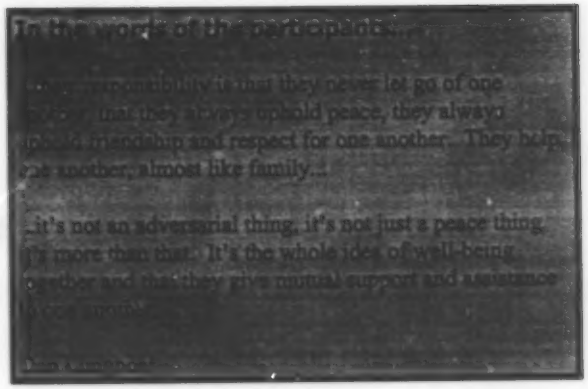

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Please Note: The recommendations listed below pertain to relationship-building. Detailed Aboriginal recommendations concerning specific action steps for improving Great Lakes sustainability and the SOLEC process should be developed and implemented once long-

1. **that an equitable, long-term and mutually beneficial partnership be established between Environment Canada - Ontario Region and those First Nations within the Ontario portion of the Great Lakes Basin.** Such a partnership would enable the involved parties to share information, including scientific knowledge and TEK, on a mutually beneficial basis. This partnership should be created and maintained according to a co-existence model as described by the Two-Row Wampum.

2. **that a Memorandum of Understanding (MoU) or other instrument be negotiated between Environment Canada - Ontario Region and the Ontario Great Lakes First Nations committing all parties to the establishment of such a partnership.**

3. **that the MoU enshrine the principles of peace (respect), a good mind (equity), and the power of a good mind (empowerment).** The common interest of restoring and maintaining the Great Lakes Basin Ecosystem should serve as the basis for entering into this agreement. The agreement can strive to minimize duplication of efforts, improve communication, and conserve and combine resources of all parties in achieving this common goal.

4. **that the MoU should reflect Canada's and the United States' commitments made as signatories to the Convention on Biological Diversity.** In particular, it should memorialize the language contained in Article 8(j) relating to Aboriginal people and TEK:

    1. preserving and maintaining TEK;
    2. promoting TEK's wider application;
    3. involving Aboriginal people in meaningful ways within SOLEC; and
    4. equitable sharing of benefits arising from the sharing of TEK.

5. **that First Nations capacity-building for the purpose of contributing meaningfully to this partnership be funded by Environment Canada on a stable, long-term basis.** This will ensure that the best results possible are achieved in all areas and will help to "level the playing field" in terms of information availability. Such funding must ensure that communities have the resources they need to conduct any necessary follow-up activities following specific projects.

6. **that the unique status of First Nations in establishing and maintaining environmental partnerships be recognized by all parties, including Environment Canada.** Any such partnerships must be negotiated on a Nation-to-Nation basis, accounting for the fact that First Nations continue to hold Aboriginal and Treaty rights.

8. that existing First Nations projects on the health of the Great Lakes ecosystem (especially the EAGLE Project) be continued and built upon so that the wealth of information arrived at through such undertakings is not lost. This information could be put to good use in the development of a separate First Nations process to run parallel to SOLEC.

9. that Environment Canada take steps to officially recognize TEK as a complementary and valid source of knowledge on a par with western science. If Environment Canada and First Nations are to enter into partnerships based on mutual respect, then Environment Canada will have to begin taking seriously the TEK which Aboriginal people offer. Native people will not share it if it is not valued.

10. that an Aboriginal focus be included in SOLEC web sites and reports. As part of establishing and maintaining partnerships, SOLEC Web pages should contain links to documents and other Web sites (e.g. EAGLE Project, Indigenous Environmental Network, Bkejwanong.com, etc.) which provide Aboriginal perspectives on Great Lakes issues and describe First Nations undertakings in this area.

11. that a representative group of Aboriginal people be included from the outset of any Environment Canada Great Lakes project or program, and that such representation be 50% female. Long term success depends on meaningful First Nations participation at all stages, from project formulation through to implementation and monitoring.

12. that community control be maintained over projects involving community TEK. If the people are to be expected to share their knowledge, they must be assured of having a meaningful say in how that knowledge is used. In order to guarantee this to the fullest extent possible, community members must be involved in all project stages, and must have a thorough understanding of all aspects of the project as it unfolds.

13. that these recommendations for a co-existence partnership model be shared as having application throughout the Great Lakes region, including the Tribes/Nations in the United States as well the United States Environmental Protection Agency.

CLOSING

deyoihwadogęhdǫ́h ganǫhǫ́nyǫhk
short version *thanksgiving address*

nę:dah nigę́kyǫ̱hgo˒dę́ ęjihswadǫhǫhsi:yóhs gaihwaęt:gǫ́h sawá:dǫ˒
now this *assembled crowd* *you will all listen again* *to my responsibility* *it has become again*

né:˒ hgjidwaihwagyęhętó˒ shǫgwayadihs˒ǫ́h sǫgwa:wí: ganǫhǫ́nyǫhk
it *we will pull from again* *our creator* *—he has given us* *thanksgiving*

ne:˒né:˒ aǫ:˒we:sáht˒ sgę:nǫ́˒ dwęnǫhdǫ́nyǫh
it is *rejoicable* *of well being* *we are in mind of*

ne:˒di˒né˒ ędwe:hék i:˒hyá:˒ sgá:t ęjidwayę́:˒ ogwa˒nigǫ́ha
and so we *will in thought* *we first* *as one* *we will put again* *our minds*

sgá:t dęjidwadatnǫhǫnyǫ́:˒
as one *we will greet each other*

netogyę́: é:˒ niyohtǫ́k ǫgwa˒nigǫ́ha˒
be it so *again* *remain* *our minds*

da:né:˒ ę́:˒ ęjidwa:tro:wí˒ shę́h ohwęjáde˒
now this *again* *we will talk again* *about* *existing earth*

dwano:há˒ dędwanǫhǫhkwá˒ né: gwatóh shę́h niyéha:˒
our mother *we refer to it as* *and* *also* *what* *she holds*

ne:˒di˒né˒ ędwe:hé:k gwe:gǫ́h dęjidwanǫhǫnyǫ́:˒ *
and so *we will in thought* *everything* *we will thank again*

netogyę́: é:˒ niyohtǫ́k ǫgwa˒nigǫ́ha˒
be it so *again* *remain* *our minds*

da:né: é:ˀ ɋdwa:tró:wiˀ hodɋihǫdǫ́nyǫˀ
now it again we will talk about his assigned duty performers

tatiihsnyé:gyeˀs shɋh nahawayɋnánhe
they look after how much he created

neˀdiˀnéˀ ɋdwe:hék agá:t dɋjetinǫhǫ́nyǫ:ˀ
and so we will mentally as one we will thank them again

netogyɋ́: é:ˀ niyohtǫ́k ǫgwaˀnigǫ́haˀ
be it so again remain our minds

da:né: é:ˀ ɋjidwa:tro:wí sedwagowa:nɋ́h sganyadaí:yoˀ
now it again we again will talk about our leader handsome lake

oi:howa:nɋ́h atatrihwá:dsˀa:ˀ
a great worthy commendation he had earned for himself

né:ˀ deɋahaihwaɋ:twáht shɋ́h naɋsaɋgwayɋhɋ́k ohɋ:dǫ́: haˀwɋhnihfradenyǫ́:gyeˀ
it is he who has seeded the news of how we will conduct ourselves in future days ahead

neˀdiˀnéˀ ɋdwe:hé:k dɋtsedwanǫhǫnyǫ́:ˀ sedwagowanɋ́h sganyadaíyoˀ
and so we will mentally we will again thank him our leader handsome lake

netogyɋ́: é:ˀ niyohtǫ́k ǫgwaˀnigǫ́haˀ
be it so again remain our minds

da:né: é:ˀ jidwa:tro:wíˀ geí: niyǫgweda:gé: hadiǫhyaˀkió:nǫˀ
now it again we will again talk about the four people of male inhabitants

né: deyǫkhiyɋˀnyadǫ́ˀ sgɋnǫ́ˀ dwɋnǫhdǫ́nyǫh
it is with their hands guard us well being we are in their minds

neˀdiˀnéˀ ɋdwehé:k dɋjetinǫhǫnyǫ́:ˀ hadiohyaˀkio:nǫˀ deyǫkiyɋˀnyádǫˀ
and so we mentally we again will thank them heavenly male inhabitants our guardians

netogyɋ́: é:ˀ niyohtǫ́k ǫgwaˀnigǫ́haˀ
be it so again remain our minds

da:né:ˀ é:ˀ gjidwa:tro:wíˀ haǫhaˀgéh gaǫhyadêˀ hanagrêˀ shǫgwayadíhsˀǫh
now it again we will again talk about him who in heaven he lives creator

ne:ˀtǫ́: toˀsǫhdǫ́h néˀ sgǫnǫ́ˀ nidwǫnǫhdǫ́nyǫ:ˀ
only things dropped down well being in our minds

neˀdiˀnêˀ ǫdwe:hé:k dǫtsedwanǫhǫnyǫ́:ˀ gaǫhyadêˀ hana:grêˀ shǫgwayadíhsˀǫh
and so we will mentally again thank him who in heaven he lives our creator

netogyǫ́: é:ˀ niyohtǫ́k ǫgwaˀnigǫ́haˀ
be it so again remain our minds

da:netóh nǫsaga:tgwe:ní íˀgéh sagayagǫhdáhk ganǫhǫ́nyǫhk
this is the best I could do again up to me it again came out thanksgiving

da:nétoh
that is all

Address and Cayuga-English translation provided by
Norman L. Jacobs
Haudenosaunee Environmental Delegate
Six Nations of the Grand River

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